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Transverse momentum distributions at large-x

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Abstract

We study properties of the collinear matching of the transverse momentum dependent (TMD) distributions at large values of Bjorken-x. The leading asymptotic of the matching coefficients is computed for all kinds of TMD distributions, both twist-two such as unpolarized distribution and fragmentation TMD functions and twist-three ones such as the Sivers function. We demonstrate the universal nature of the large-x resummation for TMDs which is related to the perturbative behaviour of the Collins-Soper kernel. We also present phenomenological estimates of the resummation effects and provide a comprehensive algorithm of the usage of the large-x resummation.

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